

**REMARKS**

**Examiner Interview dated September 18, 2002:**

Applicant's undersigned representative and Examiners Phuongchi T. Nguyen and Renee Luebke conducted a telephonic interview on September 18, 2002 discussing the Bricaud reference and its application to claims 1 and 5. During the interview, an agreement was reached that the addition of the phrase "wherein the branches complete an electrical connection with at least one device" would overcome the rejection under the Bricaud reference. *See* Form PTO-413, Paper No. 17, dated September 18, 2002.

In response thereto, Applicant amended the claims 1 and 5 to incorporate this phrase (although the exact wording above was not used). Applicant also amended claim 9 to address a clarity issue and added new claims 12-16. *See* Applicant's Amendment dated November 12, 2002.

Following the filing of the above reference Amendment, which incorporated the Examiner's recommended claim language, Applicant received a Final Office Action indicating that all claims, including claims 1 and 5, were rejected over the Bricaud reference. *See* Office Action dated January 28, 2003, Paper No. 19. The present Amendment is filed in response thereto.

**Finality of January 28, 2003 Office Action:**

After receiving the above referenced Final Office Action, and in light of the discussions of the September 18, 2002 Examiner Interview, Applicant's undersigned representative contacted the Examiner and conducted a second telephonic interview on March 3, 2003. During

the interview the Examiner agreed to withdraw the Finality of the January 28, 2003 Office Action.

Applicant sincerely thanks the Examiner for withdrawing the Finality of the above referenced Office Action. In light of this withdrawal, Applicant is filing the present amendment under the provisions of 37 C.F.R. § 1.111, and not 37 C.F.R. § 1.116, and requests that the claim amendments shown in the attached Appendix be entered, and all arguments set forth herein be considered.

Applicant also notes that during the March 3, 2003 Interview the Examiner indicated that further search consideration would be needed in view of the discussions regarding the Bricaud reference. *See* Interview Summary dated March 3, 2003. In a subsequent telephonic interview, the Examiner indicated to Applicant's undersigned representative that, after further consideration, the Examiner felt that the rejections set forth in the January 28, 2003 Office Action were appropriate.

Applicant now turns to the January 28, 2003 Office Action:

**Claim Objections:**

The Examiner has objected to claims 9, 12 and 13 as being in improper dependent form. Although Applicant disagrees, Applicant has amended each of the above claims as shown in the attached Appendix, and has written each of these claims in independent form.

Further, Applicant notes that the above referenced claim amendments have been made to merely clarify the claimed invention and are not intended to narrow the original scope or spirit of the claims, in any way.

**Claim Amendments:**

In addition to the above referenced amendments, Applicant notes that claims 1, 3, 5, 14 and 15 have also been amended as shown in the attached Appendix. Applicant submits that the above referenced claim amendments have been made to merely clarify the claimed invention and are not intended to narrow the original scope or spirit of the claims, in any way.

**“Contact” v. “Connection” v. “Circuit”:**

Applicant notes that throughout the prosecution of the above referenced application, a plurality of terms have been used in the claims to signify an electrical connection between the first and second branches and a device. Applicant notes that although these different terms have been used (and the term “circuit” is now used), Applicant submits that within the context of the present invention, these terms are synonymous and encompass the same scope. Applicant has amended the claims to use different terms to make the claimed invention as clear as possible, but in doing so has not intended to surrender any subject matter or embodiments of the present invention.

Specifically, Applicant submits that when a contact is in electrical “contact” with a device, it is also in electrical “connection” with the device, as well as completing an electrical “circuit” with a device, with the scope of the present invention.

**Claim Rejections:**

Claims 1 and 3-16 are all of the claims pending in the present application, and currently all of the claims stand rejected.

**35 U.S.C. § 102(e) Rejection - Claims 1, 3-8, 10-11 and 14-16:**

Claims 1, 3-8, 10-11 and 14-16 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Bricaud. In view of the following discussion, Applicant respectfully disagrees.

As previously described, Bricaud discloses a thin electrical connector for connecting contact pads of a smart card to a circuit board. The electrical connector includes a number of contacts **44**, each having engaging blades **60**, which make contact with the smart card, and connection ends **68**, which are soldered to traces on the circuit board. *See* Bricaud, Figures 3 and 8-11, and col. 3, lines 14-20. The contacts **44** are secured to an insulative support plate **42**, which is secured to a circuit board. The contacts **44** are secured to the insulative support plate **42** using a pair of front branches **82** (each having a ear **104**), and a pair of rear branches **84** (each having an ear **118**). *See id.* at Figures 3 and 8-9, and col. 3, lines 50-60. The ears **104** and **118** of each of the front and rear branches “lie in upwardly opening recesses in the support plate.” *Id.* at col. 3, lines 59-60.

Throughout the prosecution of the present application, the Examiner has asserted that the combination of the engaging blade **60**, the base **66** and one of the branches **82**, constitutes the “U”-shaped connector of the present invention. Specifically, the Examiner has asserted that the blade **60** is one of the “first” or “second” branches of the present invention, and the branch **82** is the other. *See* Bricaud, Figure 11. Further, the Examiner has consistently asserted that the branch **82** (of Bricaud) makes electrical contact or completes an electrical connection with a device, as required by the claims of the present application. However, the Examiner has failed to

identify, nor can Applicant identify, any “device” to which any of the branches **82** make contact with.

It appears to be the Examiner’s position that because the branch **82** is integrally made with the base **66** and the blade **60**, and they are all made of a conductive material, the fact that the blade **60** makes electrical contact with a device means that the branch **82** makes electrical contact with a device. Applicant disagrees with this interpretation of Bricaud for a number of reasons.

First, Applicant notes that it is undisputed and clear that the branches **82** make contact with only the support plate **42**, and are used to hold the contact **44** in place. *See* Bricaud, Figures 1 and 2. It is further clear that the plate **42** is made from an insulative material. *See* Bricaud, col. 3, lines 12-13 (characterizing the plate **42** as an “insulative support plate”). It is because of this reason that the branch **82** of the contact **44** does not make electrical contact or completes an electrical connection, or completes an electrical circuit with any kind of a device. The insulative support plate **42** is not a device. Further, because the plate is of an “insulative” material the branch can not make electrical contact, complete an electrical connection, or complete an electrical circuit, with the plate **42**. Applicant submits that it is notoriously well known that there can be no electrical contact, electrical connection, or electrical circuit with an insulative material. In fact, if this were the case, then every electronic device would fail to function. Stated differently, if the branch made electrical contact with the plate **42**, then all of the contacts **44** within the plate **42** (*see* Figures 1 and 2 showing at least six contacts **44**) would be making

electrical contact with each other and thus, the entire operation of the smart card connector in Bricaud would fail.

Second, the Examiner has stated that “the first and the second branches of the spring contact is one piece of metal, when the electrical connection goes through one branch of the spring contact, the other branch of the same spring contact will be automatically conducted with the same electric current.” *See* January 28, 2003 Office Action, page 5. Applicant could not disagree more with this statement.

Applicant acknowledges that because the contact **44**, including the branch **82** and the blade **60**, are integrally formed and made of a conductive material, once a voltage is applied to the contact **44**, the voltage will be essentially constant throughout the entire contact **44**. However, Applicant submits that the mere fact that the branch **82** has a voltage does not mean that it makes electrical contact, completes an electrical connection or completes an electrical circuit with the plate **42**, and certainly does not mean that the branch **82** will have the same “current”. In Bricaud, it is only the blade **60** and connection end **68** which make electrical contact with a device. Applicant submits that there is no electrical current, of any kind, flowing from the branch **82** into the plate **42** to make an electrical contact, complete an electrical connection, or complete an electrical circuit.

To evidence this point, Applicant notes that the removal of the either, or both, of the branches **82** from the contact **44** would not affect the electrical operation of the contact **44**, in any way. Because only the portions **60** and **68** make electrical contact with a device, electrical current will flow from the blade **60** to the portion **68**, and the loss of even both of the branches

82 would not affect the electrical operation, in any way. However, in the present invention, the loss of either the first or second branches would adversely affect the operation of the present invention. If the Examiner's assertions were correct, the loss of either of the branches 82 would cause the contact 44 to not function, as the flow of "current" would be broken. This is simply not the case.

It is well known, that "[t]o get electricity to flow, you need a complete circuit, or loop, between the source with the higher potential and the place where the electricity is going." *See* Jim Stana, How does electric current flow?, (visited Feb. 11, 2003) <<http://www.madsci.org/posts/archives/dec2000/978045522.Eg.r.html>>, (emphasis added). (Attached as Exhibit A). Applicant submits that because the branch 82 makes contact with only the plate 42, there can be no "flow" and as such there can be no current, circuit, electrical connection or electrical contact with a device. The mere fact that the branch 82 may have a voltage, is insufficient to establish an electrical contact, connection or circuit. Applicant submits because no current can flow from the branch 82 to the plate 42, there is no electrical contact, connection or circuit with a device, of any kind. Further, Applicant submits that to assert branch 82 makes electrical contact (etc.) with a device though the blade 60 is an impermissibly broad interpretation of Bricaud and is completely contrary to the understanding of those of ordinary skill in the art.

Therefore, Bricaud fails to disclose each and every feature of the claimed invention. Again, Applicant notes that the removal of the branches 82 would have no affect, whatever, on

the electrical operation of the contact 44, and as such, Bricaud can not anticipate the claimed invention.

If the Examiner continues to reject the present claims in view of the Bricaud reference, Applicant respectfully requests the Examiner to explain how either of the branches 82 make electrical contact, completes an electrical connection, or completes an electrical circuit with a device of any kind.

In view of the foregoing, Applicant submits that Bricaud fails to disclose each and every feature of the claimed invention, and thus fails to anticipate the present invention. Applicant hereby requests the Examiner reconsider and withdraw the above 35 U.S.C. § 102(e) rejection of the above claims.

Claims 9, 12 and 13:

In addition to the above referenced discussion, which Applicant submits is dispositive to all of the pending claims, Applicant submits that claims 9, 12 and 13 are also allowable because Bricaud fails to disclose, teach or suggest “spring contacts in two adjacent housings are positioned so that they are substantially parallel but the opposite way round to each other, one of said first and second branches of one contact being adjacent the other of said first and second branches of the adjacent contact.” *See* claims 9, 12 and 13.

Conclusion:

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the

AMENDMENT UNDER 37 C.F.R. § 1.111  
U.S. Application No.: 09/673,614

Our Ref.: Q61365  
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Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



Terrance J. Wikberg  
Registration No. 47,177

SUGHRUE MION, PLLC  
Telephone: (202) 293-7060  
Facsimile: (202) 293-7860

WASHINGTON OFFICE



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PATENT TRADEMARK OFFICE

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APPENDIX  
VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS:

**The claims are amended as follows:**

1. (Five Times Amended) A connector, comprising:  
a spring contact, wherein said spring contact is substantially U-shaped and has  
first and second branches and a base joining said first and second branches at one end for  
forming said U-shape, and wherein each of said first and second branches complete an  
electrical connection circuit with a device, characterized in that said first and second  
branches lie in two diverging planes and the intersection of said two planes is within the  
base of the U-shape, and  
wherein one of said first and second branches and the base are coplanar.

3. (Three Times Amended) A connector according to claim 1, characterized in that the  
electrical contact of at least one of said first and second branches is made at the free end  
of said branch.

5. (Six Times Amended) An electrical connector, comprising:  
a first face,  
a second face opposite said first face, and  
at least one housing for receiving a spring contact and opening onto both of said  
first and second faces,

wherein said spring contact is substantially U-shaped and has first and second branches and a base joining said first and second branches at one end for forming said U-shape, each of said first and second branches complete an electrical connection circuit with a device, characterized in that said first and second branches lie in two diverging planes and the intersection of said two planes is within the base of the U-shape, and one of said first and second branches and the base are coplanar; and

wherein the spring contact is positioned in the housing so that the plane containing the base of the U-shape is substantially parallel to respective planes of the faces of the connector.

9. (Four Times Amended) An electrical connector according to claim 5,  
comprising:

a first face;

a second face opposite said first face; and

including a plurality of housings opening onto at least one of said first and second  
faces and each housing receiving a respective spring contact which is substantially U-  
shaped and has first and second branches and a base joining said first and second  
branches at one end for forming said U-shape, wherein each of said first and second  
branches complete an electrical connection circuit with a device, characterized in that  
said first and second branches lie in two diverging planes and the intersection of said two  
planes is within the base of the U-shape, and one of said first and second branches and

the base are coplanar, further characterized in that the spring contacts in two adjacent housings are positioned so that they are substantially parallel but the opposite way round to each other, one of said first and second branches of one contact being adjacent the other of said first and second branches of the adjacent contact.

12. (Amended) An electrical connector ~~according to claim 5, comprising:~~  
a first face;  
a second face opposite said first face; and  
including a plurality of housings opening onto at least one of said first and second faces and each housing receiving a respective spring contact which is substantially U-shaped and has first and second branches and a base joining said first and second branches at one end for forming said U-shape, each of said first and second branches complete an electrical ~~connection~~ circuit with a device, characterized in that said first and second branches lie in two diverging planes and the intersection of said two planes is within the base of the U-shape, and one of said first and second branches and the base are coplanar, wherein ~~the~~ electrical contact of at least one of said first and second branches is made at the free end of said branch, further characterized in that the spring contacts in two adjacent housings are positioned so that they are substantially parallel but the opposite way round to each other, one of said first and second branches of one contact being adjacent the other of said first and second branches of the adjacent contact.

13. (Amended) An electrical connector according to claim 5, comprising:  
a first face;  
a second face opposite said first face; and  
including a plurality of housings opening onto at least one of said first and second  
faces and each housing receiving a respective spring contact which is substantially U-  
shaped and has first and second branches and a base joining said first and second  
branches at one end for forming said U-shape, each of said first and second branches  
complete an electrical connection-circuit with a device, characterized in that said first and  
second branches lie in two diverging planes and the intersection of said two planes is  
within the base of the U-shape, and one of said first and second branches and the base are  
coplanar, wherein one of said first and second branches is adapted to come in contact  
with a printed circuit first electrical device and the other of said first and second branches  
is adapted to come into contact with a battery second electrical device, further  
characterized in that the spring contacts in two adjacent housings are positioned so that  
they are substantially parallel but the opposite way round to each other, one of said first  
and second branches of one contact being adjacent the other of said first and second  
branches of the adjacent contact.

14. (Amended) A connector, comprising:  
a spring contact, wherein said spring contact is substantially U-shaped and has  
first and second branches and a base joining said first and second branches at one end for

forming said U-shape, and wherein said first branch ~~makes completes~~ an electrical contact circuit with a first device and said second branch ~~makes completes~~ an electrical contact circuit with a second device, characterized in that said first and second branches lie in two diverging planes and the intersection of said two planes is within the base of the U-shape, and

wherein one of said first and second branches and the base are coplanar.

15. (Amended) A connector according to claim 14, characterized in that the electrical contact of at least one of said first and second branches is made at the free end of said branch.